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# United States Department of Agriculture,

## FOREST SERVICE—Circular 57.

GIFFORD PINCHOT, Forester.

### FOREST PLANTING LEAFLET.

#### JACK PINE (*Pinus divaricata*).

##### FORM AND SIZE.

Jack pine usually attains a height of from 30 to 50 feet and a diameter of from 8 to 12 inches. Under favorable conditions a height of 90 feet and a diameter of 2 feet may be reached. It has a fairly straight and symmetrical stem, and when grown free a low, full crown. In close stands the crown is narrow and covers only the upper part of the tree. The needles are 1 to 1½ inches long and grow in pairs bound by a short sheath.

##### RANGE.

The natural range of jack pine is along the northern border of the United States, from eastern Maine to Minnesota. In the United States it is commonest in northern Michigan, Wisconsin, and Minnesota, where it occupies great areas of barrens or is found with red pine or with stunted oaks and other broadleaf species.

The tree is recommended for planting in the North Central States where the soil is poor but contains moisture not far below the surface.

##### SILVICAL QUALITIES.

Jack pine is a very hardy tree, and is suited to sterile, sandy soils. It can be planted with a good prospect of success where few other trees grow, provided ground water is not too far below the surface. It will withstand considerable drought, and is rarely injured by frost. It is intolerant of shade at all ages, and therefore not well adapted for mixed plantations.

It is one of the most rapid-growing pines, but is comparatively short lived, reaching maturity in about sixty years.

Jack pine suffers little from insects or disease. Wind will sometimes overthrow the trees, especially where the roots have been forced close to the surface of the ground by excess of moisture.

##### ECONOMIC USES.

The wood is light, soft, coarse grained, moderately strong, and moderately durable. It makes good coarse lumber, and, when chemically treated, very satisfactory posts and ties. In most of its qualities it compares with the loblolly pine of the Southeast. It is somewhat inferior to red (Norway) pine and western yellow pine. Jack pine is a good tree for windbreaks and shelterbelts, and for

farm woodlots in the Dakotas, Nebraska, and throughout the sandy regions of the North Central States, wherever a better tree will not thrive.

#### METHODS OF PROPAGATION.

Jack pine grows only from seed. Natural reproduction is very abundant wherever there are old trees, as a good crop of seed falls almost every year, and the percentage of germination is high. The seeds ripen in the fall, and are easily kept over winter in any dry, cool place.

Like most other pines, the tree produces a strong tap-root, which, in dry situations, may penetrate to a considerable depth. Where water is not far from the surface, as in most parts of its natural range, the deep roots are less developed, or they rot off after a time, and strong laterals are sent out in their place.

#### PLANTING.

In planting jack pine it is best to use seedlings two or three years old, which may be raised in nursery beds from seed planted either in the fall or in the early spring.

The young trees should be set out in the spring, late in April or early in May. They may be planted in furrows, but where the sand is light and apt to be blown about if disturbed it will be best to place them in holes made with a spade or planting bar. As a rule the proper spacing is 4 feet each way.

It is usually advisable to plant jack pine alone, but green ash, hackberry, and possibly other hardy deciduous trees, which will not overtop it, may be introduced as associates.

#### CULTIVATION AND CARE.

Under ordinary conditions plantations of jack pine need little cultivation. It will often be necessary to let the young trees struggle with wild grasses, because the latter can not be removed without exposing the soil to displacement by wind. In a few years the trees will grow above and kill out the grass, and as soon as the tops interlace will establish good forest conditions within the plantation. Where the tree is placed about the homestead and very rapid growth is desired, the ground may be cultivated and then mulched with straw or old hay. Plantations thus made and treated will grow satisfactorily if fire and stock are kept out of them.

This pine has been planted and grown very successfully in the sandhills of Nebraska, where the trees have received no cultivation at all. One small plantation there has produced 15 cords of wood per acre in 42 years, and the trees are still growing at a good rate.

Approved.

JAMES WILSON,

*Secretary.*

WASHINGTON, D. C., *November 24, 1906.*



